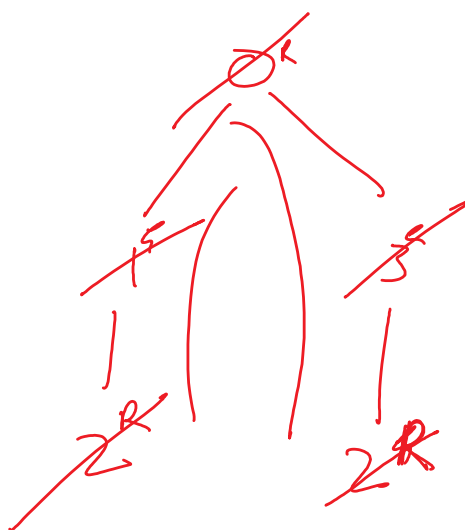
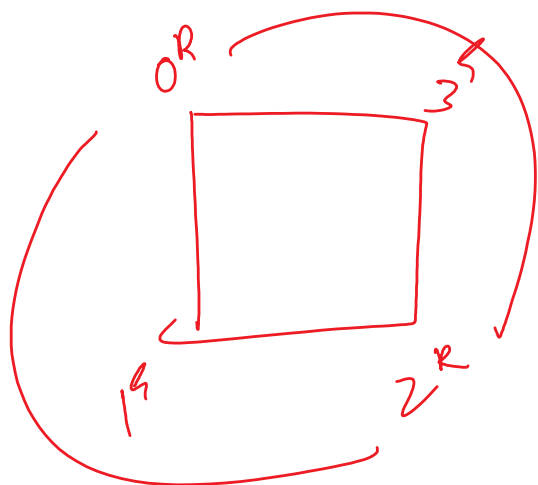
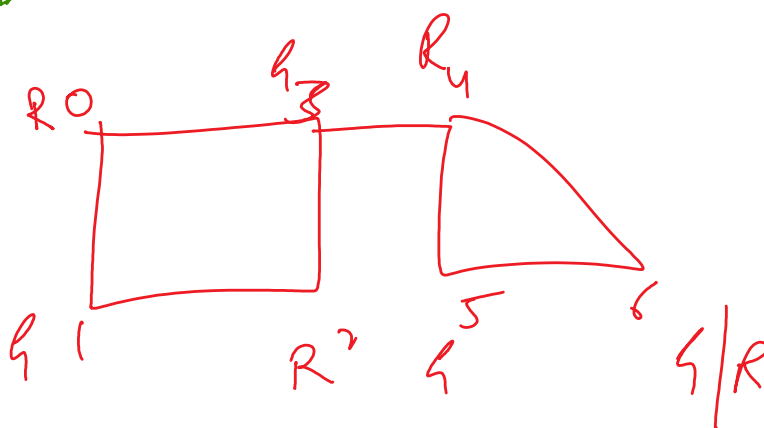
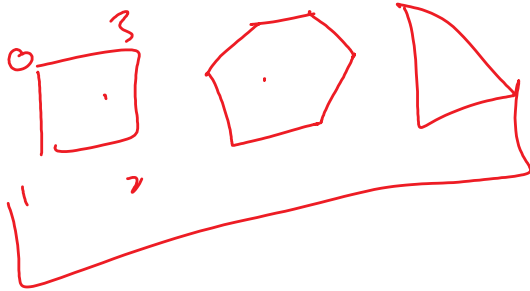
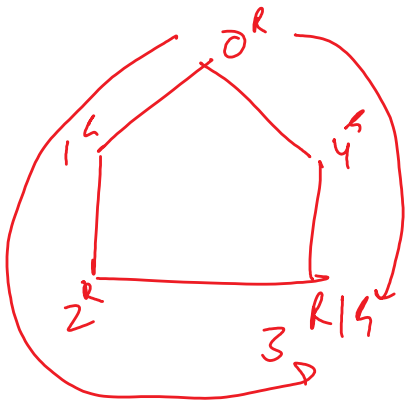


Bipartite

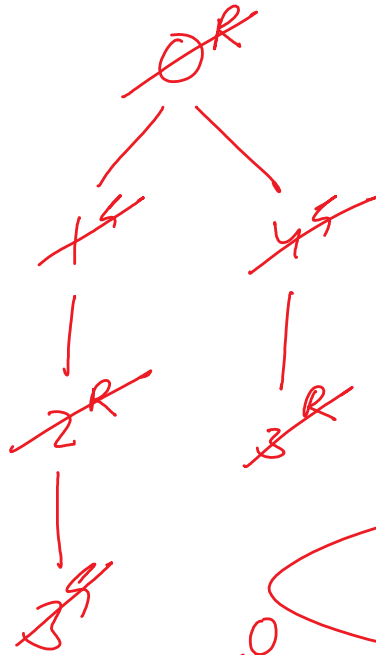


$0 \rightarrow R$
 $1 \rightarrow S$
 $3 \rightarrow S$
 $2 \rightarrow R$



$a_2 b_2$
 $c_1 d_1$
 $e_0 p$
 $g_2 h_0$

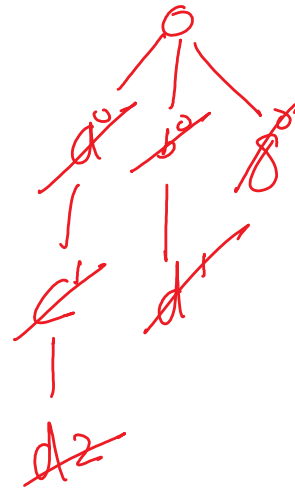
$\phi a_2 \phi b_2$
 $\phi c_1 \phi d_1$
 $e_0 p$
 $\phi g_2 h_0$



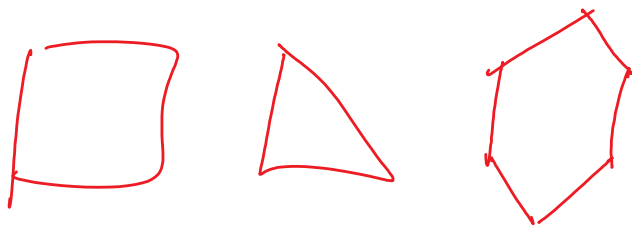
$0 \rightarrow R$
 $1 \rightarrow G$
 $4 \rightarrow G$
 $2 \rightarrow R$
 $3 \rightarrow R$

9:42 - 9:52

Lecture
 10/1



10/1



0 → 1, 2, 3

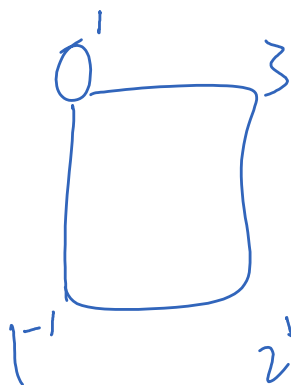
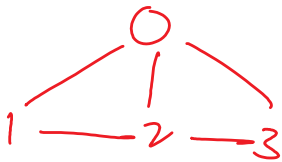
0 → 1 2 3

1 → 0 2

2 → 0 1 3

3 → 0 2

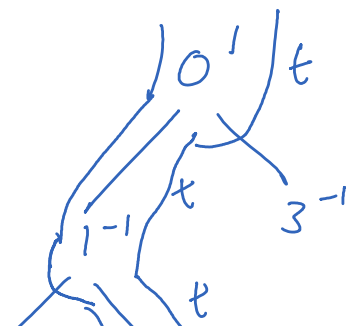
[[1,2,3],[0,2],[0,1,3],[0,2]]



```

public boolean traverseDFS(int[][] graph, int[] visited, int v, int color){
    visited[v] = color;
    for(int nbr: graph[v]){
        if(visited[nbr] == 0){
            boolean isBip = traverseDFS(graph, visited, nbr, color * -1);
            if(isBip == false){
                return false;
            }
        } else {
            int oc = visited[nbr];
            int nc = color * -1;
            if(oc != nc){
                return false;
            }
        }
    }
}

```



```

int nc = color * -1;
if(oc != nc){
    return false;
}
return true;
}

```

